Morbidity and Mortality Weekly Report

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE

Prepared by the COMMUNICABLE DISEASE CENTER MElrose 4-5131

For release September 28, 1962 ATLANTA 22, GEORGIA Vol. 11, No. 38

PROVISIONAL INFORMATION ON SELECTED NOTIFIABLE DISEASES IN THE UNITED STATES AND ON DEATHS IN SELECTED CITIES FOR WEEK ENDED SEPTEMBER 22, 1962

POLIOMYELITIS – A total of 29 cases of poliomyelitis (21 paralytic) were reported for the week which ended September 22, 1962. The comparable week in 1961 accounted for 69 cases (40 paralytic).

Thirteen States reported cases this week. Georgia and Louisiana each recorded 4 cases, Alabama 3, and Texas only 2. No epidemiologic concentrations have been noted in these States.

Reported cases of paralytic poliomyelitis in 1962 are over 20 percent below the comparable total for the previous record low year (1961).

Thus far in 1962, virologic studies have been completed on 119 cases reported as poliomyelitis. Of these 100 have yielded Type I poliovirus (49 of these isolates were from Texas cases), and 19 have yielded Type III virus.

POLIOMYELITIS, 1ST THROUGH THE 38TH WEEK (1958-1962)

	1962	1961	1960	1959	1958
Paralytic	436	557	1,446	3,771	1,680
Total	559	849	2,111	5,950	3,433

Table 1. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES
(Cumulative totals include revised and delayed reports through previous week)

Disease	38th Week			Cumulative First 38 weeks		
	Ended September 22, 1962	Ended September 23, 1961	Median 1957 - 1961	1962	1961	Median 1957 - 1961
Aseptic meningitis	106	144	---	1,734	2,154	---
Brucellosis	9	15	15	307	454	577
Diphtheria	16	12	19	291	400	471
Encephalitis, infectious	54	38	58	1,246	1,173	1,313
Hepatitis, infectious and serum	929	1,213	401	41,024	56,042	16,170
Measles	788	627	857	443,511	387,689	396,521
Meningococcal infections	31	29	34	1,596	1,590	1,710
Poliomyelitis, total	29	69	213	559	849	3,368
Paralytic	21	40	82	436	557	1,616
Nonparalytic	6	22	94	88	201	1,239
Unspecified	2	7	37	35	91	513
Streptococcal sore throat and Scarlet fever	4,132	3,209	---	237,075	242,932	---
Tetanus	12	---	---	194	---	---
Tularemia	3	---	---	217	---	---
Typhoid fever	14	21	26	447	580	591
Typhus fever, tick-borne, (Rocky Mountain spotted)	5	---	---	190	---	---
Rabies in Animals	45	61	68	2,873	2,572	2,850

Table 2. NOTIFIABLE DISEASES OF LOW FREQUENCY

Anthrax:
Botulism:
Malaria: N.Y. - 1, N. C. - 2.
Plague:
Psittacosis:
Rabies in Man:
Smallpox:
Typhus, murine: Ala. - 1, Tex. - 1.

SPECIAL REPORT

Reported Paralytic Poliomyelitis Following Oral Vaccine:

On September 15, 1962, the Surgeon General's Oral Poliomyelitis Vaccine Advisory Committee met in Washington, D. C., and reviewed the data concerning the occurrence of reported cases of poliomyelitis after the administration of oral poliomyelitis vaccines during the current calendar year. After a full discussion of the problem the Committee unanimously recommended that the use of Type III vaccine be limited to pre-school and school age children and to adults at high risk, i.e., those travelling to hyperendemic areas and those living in areas where Type III epidemics were present or impending. They advised that mass programs using Types I and II oral vaccines be continued for all age groups. A complete report of the information reviewed is being made available to the health and medical professions. The salient features of this report are abstracted below.*

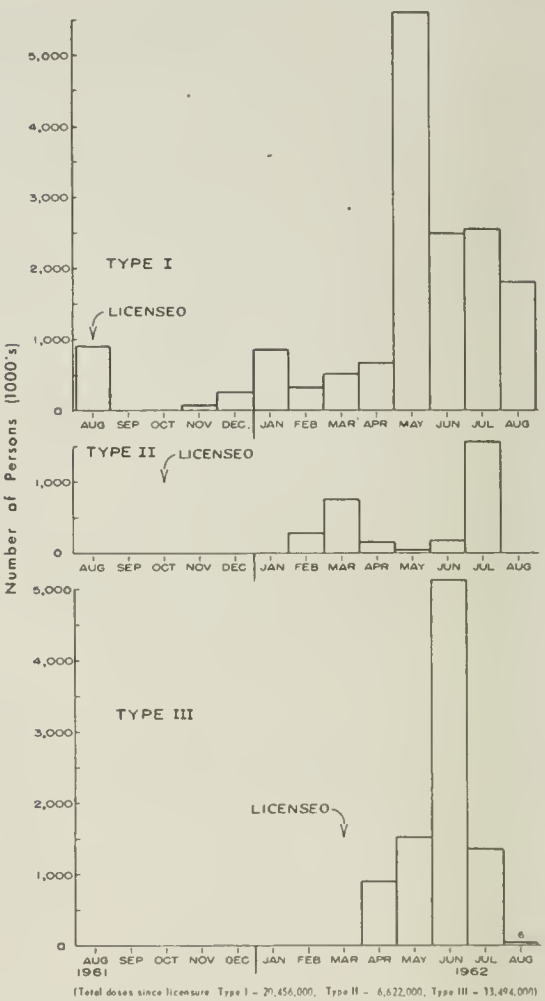
Use of Poliomyelitis Vaccines:

The Type I oral vaccine was licensed for distribution in interstate commerce on August 17, 1961; Type II vaccine on October 19, 1961; and Type III on March 27, 1962.

Most of the vaccine has been used in community-wide vaccination programs; some has been used by private practitioners and in health department clinics. In most areas, the vaccine was offered to persons of all ages.

The estimated use of oral vaccines in the United States is summarized in the accompanying graph. Since it was recommended that Type I vaccine be fed first and because many programs did not start until late spring, the estimates show a much greater use of this type of vaccine than Types II and III.

Estimate of the Number of Persons Fed
During Known Mass Community Oral Polio Vaccination Programs
by Month from Date of Licensure, United States



Incidence of Poliomyelitis:

Reported to date have been 559 cases (436 paralytic) of poliomyelitis, a record low incidence in the United States.

Present data indicate that for 1962, the paralytic poliomyelitis rate for those under 20 will be approximately 7.6 per million; for those over 20, about 0.9 per million.

The Occurrence of Cases Following Oral Vaccine:

With the licensing of Type I oral vaccine in August 1961, the CDC poliomyelitis surveillance program placed particular emphasis on the evaluation of reported cases of poliomyelitis developing after vaccine use. It was recognized that when millions of persons participate in an immunization program, any of a variety of subsequent events might occur coincidentally but be attributed erroneously to the vaccine. This could be particularly true of an intercurrent disease such as aseptic meningitis that might simulate poliomyelitis and even poliomyelitis due to infection with wild polioviruses that had been acquired prior to the vaccination. The problem is compounded during the summer and early fall when many enteroviruses are actively circulating.

In epidemic control a number of cases of disease among vaccinees can be expected in the days immediately following an immunization program before there has been opportunity for immunity to develop. In non-epidemic areas, the frequency of coincidental cases should be lower, although not necessarily zero. If vaccine is related in a causal way to the cases, the intervals between immunization and onset of disease should group within the expected 7 to 30 day incubation period of the disease.

*Abstracted from a technical report by Luther L. Terry, M.D., Surgeon General, Public Health Service, entitled "The Association of Cases of Poliomyelitis with the Use of Type III Oral Poliomyelitis Vaccines". This was officially released on September 21, 1962. A copy of the complete report may be obtained on request.

Since August 17, 1961, when Type I oral vaccine became commercially available, there have been 62 cases of poliomyelitis officially reported to the Public Health Service in which oral polio vaccine had been administered within 30 days prior to the onset of symptoms.

During the epidemic in New York State in 1961, 32 "under 30-day vaccinated cases" were reported. Most of these developed soon after administration of the vaccine, in fact, 15 within 6 days. Similarly during epidemic control programs in South Carolina, Georgia, and Texas, 17 "under 30-day vaccinated cases", 11 within 6 days, were reported. The early appearance of these cases indicates a coincidental rather than a causal relationship to vaccination.

In the non-epidemic areas, 16 "under 30-day vaccinated cases" have been reported. Two followed Type I vaccine, one followed Type II vaccine, and 13 followed Type III vaccine. Eleven of the 16 occurred between the 15th and 29th day.

The Advisory Committee directed special attention to these 16 under 30-day cases reported from non-epidemic areas. All available clinical, epidemiological, and laboratory information was reviewed. Each case was considered individually, and excluded or not excluded by group decision from further consideration as to the possibility of its being vaccine induced. No case was excluded except by unanimous agreement of the committee members. Included for consideration were those cases clinically compatible with poliomyelitis which demonstrated any significant paralysis and in which laboratory findings to date were not inconsistent with a vaccine relationship. Descriptive data regarding these cases are summarized in the accompanying table, page 303.

Of the two cases of poliomyelitis reported following Type I vaccine administration, only one (case 2) was thought by the Committee to be entirely compatible clinically with poliomyelitis. Of recent onset, the virologic studies on this patient are still in process. The clinical history of the other case (case 1) indicated it to be exceedingly mild and atypical. The patient experienced no known febrile illness, he was not hospitalized, and no cerebrospinal fluid studies were performed. He recovered with no residual paralysis.

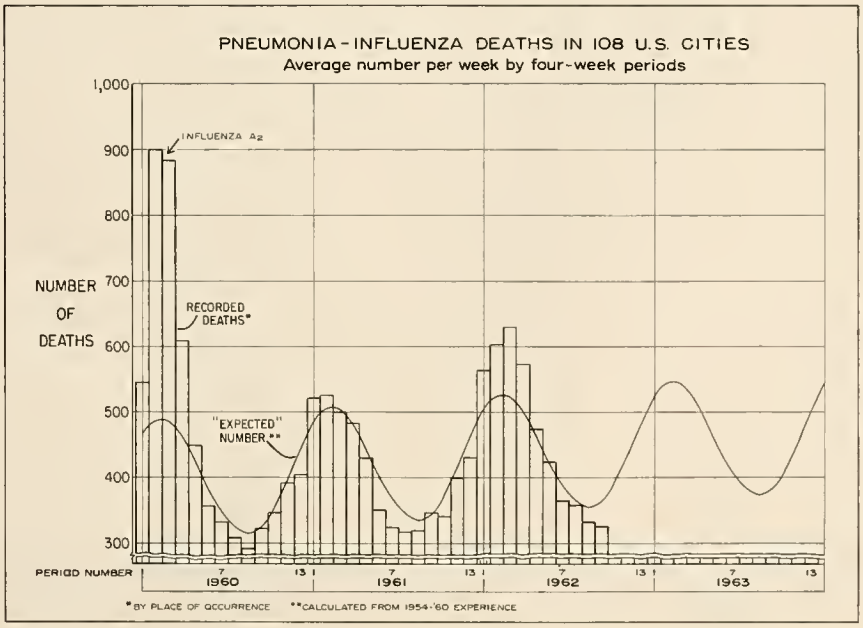
The single case reported following immunization with Type II vaccine was found to have a Type III virus in his

(Continued on page 303)

SUMMARY OF PNEUMONIA AND INFLUENZA DEATHS

The weekly average number of pneumonia-influenza deaths for the four-week period ending September 22 was 324 as compared with an expected 365 weekly average.

	WEEK ENDING				4 Week Total	Weekly Average
	9/1	9/8	9/15	9/22		
Observed	314	307	338	339	1,298	324
Expected	358	362	367	373	1,460	365
Excess	-44	-55	-29	-34	-162	-41



(See Editor's Note, page 304)

Table 3 CASES OF SPECIFIED NOTIFIABLE DISEASES, UNITED STATES FOR WEEKS ENDED

SEPTEMBER 23, 1961 AND SEPTEMBER 22, 1962

Area	Poliomyelitis, Total Cases				Poliomyelitis, Paralytic				Poliomyelitis, Nonparalytic		Aseptic Meningitis	
	38th week		Cumulative First 38 weeks		38th week		Cumulative First 38 weeks		38th week		38th week	
	1962	1961	1962	1961	1962	1961	1962	1961	1962	1961	1962	1961
UNITED STATES	29	69	559	849	21	40	436	557	6	22	106	144
NEW ENGLAND	-	1	6	21	-	1	6	17	-	-	1	11
Maine	-	-	-	2	-	-	-	2	-	-	-	2
New Hampshire	-	-	-	1	-	-	-	-	-	-	-	-
Vermont	-	-	-	4	-	-	-	4	-	-	-	-
Massachusetts	-	1	4	10	-	1	4	8	-	-	1	4
Rhode Island	-	-	-	-	-	-	-	-	-	-	-	5
Connecticut	-	-	2	4	-	-	2	3	-	-	-	-
MIDDLE ATLANTIC	1	29	58	212	1	16	41	146	-	10	4	11
New York	-	24	44	156	-	13	29	101	-	8	3	4
New Jersey	1	3	6	31	1	1	6	26	-	2	-	-
Pennsylvania	-	2	8	25	-	2	6	19	-	-	1	7
EAST NORTH CENTRAL	5	9	59	94	3	6	41	56	-	2	29	46
Ohio	-	3	16	25	-	1	14	12	-	1	9	5
Indiana	2	-	9	10	-	-	5	5	-	-	1	2
Illinois	2	1	23	21	2	-	14	9	-	1	11	13
Michigan	-	1	7	19	-	1	6	16	-	-	8	24
Wisconsin	1	4	4	19	1	4	2	14	-	-	-	2
WEST NORTH CENTRAL	1	9	27	52	1	4	17	24	-	4	14	34
Minnesota	-	1	6	6	-	1	6	6	-	-	13	23
Iowa	-	5	5	18	-	3	2	9	-	1	-	6
Missouri	-	1	7	12	-	-	2	3	-	1	1	3
North Dakota	-	-	3	2	-	-	1	-	-	-	-	-
South Dakota	-	-	1	1	-	-	1	-	-	-	-	-
Nebraska	1	2	5	6	1	-	5	3	-	2	-	-
Kansas	-	-	-	7	-	-	-	3	-	-	-	2
SOUTH ATLANTIC	6	5	41	140	5	2	36	103	1	3	2	9
Delaware	-	-	-	2	-	-	-	1	-	-	-	-
Maryland	-	-	-	22	-	-	-	22	-	-	-	-
District of Columbia	-	-	2	1	-	-	1	1	-	-	-	-
Virginia	-	1	8	9	-	1	8	9	-	-	1	4
West Virginia	-	3	5	21	-	1	5	13	-	2	-	5
North Carolina	1	1	5	14	-	-	3	7	1	1	-	-
South Carolina	1	-	5	15	1	-	5	10	-	-	-	-
Georgia	4	-	10	27	4	-	9	20	-	-	-	-
Florida	-	-	6	29	-	-	5	20	-	-	1	-
EAST SOUTH CENTRAL	4	4	48	67	4	2	38	40	-	1	2	3
Kentucky	1	-	18	21	1	-	15	5	-	-	1	-
Tennessee	-	3	10	18	-	1	3	8	-	1	-	3
Alabama	3	-	17	9	3	-	17	9	-	-	1	-
Mississippi	-	1	3	19	-	1	3	18	-	-	-	-
WEST SOUTH CENTRAL	12	5	250	114	7	3	195	59	5	2	11	3
Arkansas	3	4	9	16	1	2	7	6	2	2	2	1
Louisiana	4	-	18	35	4	-	16	26	-	-	-	-
Oklahoma	-	-	11	3	-	-	9	-	-	-	1	-
Texas	5	1	212	60	2	1	163	27	3	-	8	2
MOUNTAIN	-	1	12	41	-	-	8	23	-	-	1	-
Montana	-	-	3	3	-	-	2	2	-	-	-	-
Idaho	-	1	2	14	-	-	1	6	-	-	-	-
Wyoming	-	-	2	-	-	-	1	-	-	-	-	-
Colorado	-	-	1	6	-	-	-	6	-	-	-	-
New Mexico	-	-	-	3	-	-	-	-	-	-	-	-
Arizona	-	-	3	7	-	-	3	5	-	-	1	-
Utah	-	-	1	8	-	-	1	4	-	-	-	-
Nevada	-	-	-	-	-	-	-	-	-	-	-	-
PACIFIC	-	6	58	108	-	6	54	89	-	-	42	27
Washington	-	1	2	19	-	1	2	19	-	-	-	5
Oregon	-	1	5	13	-	1	5	6	-	-	-	1
California	-	4	50	73	-	4	46	61	-	-	42	21
Alaska	-	-	-	-	-	-	-	-	-	-	-	-
Hawaii	-	-	1	3	-	-	1	3	-	-	-	-
Puerto Rico	-	-	10	6	-	-	10	6	-	-	-	-

Table 3. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES FOR WEEKS ENDED SEPTEMBER 23, 1961 AND SEPTEMBER 22, 1962 - (Continued)

Area	Brucellosis		Diphtheria		Encephalitis, Infectious		Hepatitis, Infectious and serum				Measles	
							38th week					
	38th week	Cumulative 38 weeks	38th week	Cumulative 38 weeks	38th week		Under 20 yr.	20 & over	Total	Total	38th week	
	1962	1962	1962	1962	1962	1961	1962	1962	1962	1961	1962	1961
UNITED STATES	9	307	16	291	54	38	482	386	929	1,213	788	627
NEW ENGLAND	-	2	-	1	2	4	47	32	80	78	56	27
Maine	-	-	-	-	-	-	9	10	19	5	5	13
New Hampshire	-	-	-	-	-	-	4	1	5	12	-	5
Vermont	-	-	-	-	-	-	-	1	1	8	8	-
Massachusetts	-	1	-	1	-	1	31	20	51	32	27	-
Rhode Island	-	-	-	-	2	1	-	-	-	4	1	-
Connecticut	-	1	-	-	-	2	3	-	4	17	15	9
MIDDLE ATLANTIC	-	7	-	5	14	4	82	87	169	156	95	75
New York	-	3	-	3	9	-	49	50	99	71	47	44
New Jersey	-	1	-	1	-	-	11	15	26	27	34	13
Pennsylvania	-	3	-	1	5	4	22	22	44	58	14	18
EAST NORTH CENTRAL	-	68	-	8	8	5	93	69	174	201	229	162
Ohio	-	1	-	-	3	5	24	20	48	76	34	20
Indiana	-	5	-	3	-	-	4	2	6	15	26	26
Illinois	-	49	-	2	4	-	27	20	47	43	19	35
Michigan	-	4	-	3	1	-	34	23	57	64	90	43
Wisconsin	-	9	-	-	-	-	4	4	16	3	60	38
WEST NORTH CENTRAL	6	120	4	60	5	11	21	23	51	86	14	12
Minnesota	1	10	1	18	2	-	1	-	4	19	1	-
Iowa	2	73	2	3	-	-	6	10	16	32	3	3
Missouri	-	3	-	5	1	1	3	7	13	23	-	7
North Dakota	1	2	-	7	-	-	-	-	-	-	7	1
South Dakota	2	8	1	13	-	-	-	2	2	6	3	1
Nebraska	-	11	-	13	2	2	7	1	9	6	-	-
Kansas	-	13	-	1	-	8	4	3	7	-	NN	NN
SOUTH ATLANTIC	1	24	8	74	5	5	71	52	125	155	67	69
Delaware	-	-	-	-	-	1	-	-	-	8	3	-
Maryland	-	-	-	-	2	1	7	4	11	15	7	29
District of Columbia	-	-	-	2	-	-	2	1	3	6	1	-
Virginia	-	12	-	12	-	-	6	8	14	16	5	10
West Virginia	-	-	-	1	-	-	12	4	16	32	19	19
North Carolina	-	2	2	8	1	-	28	13	41	43	1	1
South Carolina	-	-	2	7	2	-	4	1	5	7	9	1
Georgia	-	3	3	19	-	-	2	1	3	6	-	-
Florida	1	7	1	25	-	3	10	20	32	22	22	9
EAST SOUTH CENTRAL	-	15	-	16	2	2	59	20	79	214	28	18
Kentucky	-	1	-	-	-	-	16	3	19	55	4	2
Tennessee	-	7	-	7	2	-	29	9	38	85	22	14
Alabama	-	6	-	3	-	-	8	3	11	29	2	1
Mississippi	-	1	-	6	-	2	6	5	11	45	-	1
WEST SOUTH CENTRAL	1	28	4	108	5	6	51	31	84	90	60	79
Arkansas	1	6	3	18	-	1	1	5	6	23	2	-
Louisiana	-	6	-	8	-	-	25	7	32	-	-	-
Oklahoma	-	5	-	6	-	-	-	-	-	6	-	-
Texas	-	11	1	76	5	5	25	19	46	61	58	79
MOUNTAIN	-	13	-	9	-	-	4	10	47	56	45	64
Montana	-	1	-	6	-	-	-	2	3	6	13	24
Idaho	-	1	-	1	-	-	-	-	11	8	8	-
Wyoming	-	1	-	-	-	-	1	2	3	1	-	-
Colorado	-	2	-	-	-	-	-	-	9	18	4	7
New Mexico	-	-	-	2	-	-	2	5	8	6	NN	NN
Arizona	-	4	-	-	-	-	-	-	11	3	15	19
Utah	-	4	-	-	-	-	1	1	2	5	5	14
Nevada	-	-	-	-	-	-	-	-	-	9	-	-
PACIFIC	1	30	-	10	13	1	54	62	120	177	194	121
Washington	-	-	-	-	-	-	12	10	24	22	35	13
Oregon	-	3	-	-	-	-	2	10	12	26	42	26
California	1	25	-	5	13	1	38	39	79	117	58	70
Alaska	-	1	-	5	-	-	2	3	5	12	13	12
Hawaii	-	1	-	-	-	-	-	-	-	-	46	-
Puerto Rico	-	-	-	34	-	-	20	5	25	11	66	76

Table 3. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES

FOR WEEKS ENDED

SEPTEMBER 23, 1961 AND SEPTEMBER 22, 1962 - (Continued)

Area	Meningococcal Infections		Streptococcal Sore Throat & Scarlet Fever		Tetanus	Tickborne Typhus (Rcky Mt. Spotted)	Tularemia	Typhoid Fever		Rabies in Animals		
	38th wk.	Cumulative 38 weeks	38th week		38th wk.	38th wk.	38th wk.	38th wk.	Cumulative 38 weeks	38th week		Cumulative 38 weeks
	1962	1962	1962	1961	1962	1962	1962	1962	1962	1962	1961	1962
UNITED STATES....	31	1,596	4,132	3,209	12	5	3	14	447	45	61	2,873
NEW ENGLAND.....	2	93	270	103	-	-	-	3	10	-	-	1
Maine.....	-	13	82	-	-	-	-	-	2	-	-	-
New Hampshire.....	-	3	1	1	-	-	-	-	-	-	-	-
Vermont.....	-	3	1	-	-	-	-	-	-	-	-	-
Massachusetts.....	1	39	64	36	-	-	-	3	7	-	-	1
Rhode Island.....	-	9	13	5	-	-	-	-	1	-	-	-
Connecticut.....	1	26	109	61	-	-	-	-	-	-	-	-
MIDDLE ATLANTIC.....	9	287	94	90	1	-	-	2	48	2	4	101
New York.....	6	130	53	53	1	-	-	1	24	1	4	68
New Jersey.....	-	74	20	16	-	-	-	-	11	-	-	1
Pennsylvania.....	3	83	21	21	-	-	-	1	13	1	-	32
EAST NORTH CENTRAL..	3	315	167	184	3	-	-	1	74	2	4	658
Ohio.....	3	94	29	21	2	-	-	-	38	-	3	329
Indiana.....	-	26	-	80	1	-	-	1	10	2	-	179
Illinois.....	-	72	53	14	-	-	-	-	15	-	1	84
Michigan.....	-	102	49	36	-	-	-	-	7	-	-	35
Wisconsin.....	-	21	36	33	-	-	-	-	4	-	-	31
WEST NORTH CENTRAL..	-	87	160	110	-	-	1	2	19	10	14	754
Minnesota.....	-	16	-	1	-	-	-	-	-	1	4	170
Iowa.....	-	11	36	17	-	-	-	-	2	3	2	294
Missouri.....	-	21	2	35	-	-	-	2	13	4	5	129
North Dakota.....	-	7	54	18	-	-	-	-	2	-	1	46
South Dakota.....	-	5	6	-	-	-	-	-	1	2	2	89
Nebraska.....	-	14	-	-	-	-	-	-	1	-	-	19
Kansas.....	-	13	62	39	-	-	1	-	-	-	-	7
SOUTH ATLANTIC.....	3	251	534	353	2	3	-	1	80	7	4	281
Delaware.....	1	33	1	1	-	-	-	-	2	-	-	-
Maryland.....	-	17	4	8	-	-	-	-	3	-	-	2
Dist. of Columbia..	-	7	-	2	-	-	-	-	7	-	-	-
Virginia.....	-	53	78	120	-	1	-	-	16	3	1	115
West Virginia.....	-	12	135	116	-	-	-	-	5	2	-	102
North Carolina.....	2	60	14	10	2	1	-	1	4	-	-	-
South Carolina.....	-	15	37	25	-	-	-	-	4	-	-	-
Georgia.....	-	10	-	2	-	1	-	-	18	1	-	9
Florida.....	-	44	265	69	-	-	-	-	21	1	3	53
EAST SOUTH CENTRAL..	2	98	906	795	-	2	-	1	42	2	3	301
Kentucky.....	-	23	60	36	-	-	-	-	10	1	1	107
Tennessee.....	1	42	786	746	-	1	-	1	17	-	2	173
Alabama.....	1	19	42	5	-	1	-	-	10	1	-	21
Mississippi.....	-	14	18	8	-	-	-	-	5	-	-	-
WEST SOUTH CENTRAL..	4	131	601	506	4	-	1	1	104	10	24	534
Arkansas.....	-	15	4	-	-	-	1	1	25	1	10	59
Louisiana.....	1	59	1	3	4	-	-	-	28	-	-	18
Oklahoma.....	-	6	-	8	-	-	-	-	6	-	-	22
Texas.....	3	51	596	495	-	-	-	-	45	9	14	435
MOUNTAIN.....	-	51	869	772	-	-	1	1	34	-	3	22
Montana.....	-	3	41	25	-	-	-	-	10	-	-	-
Idaho.....	-	3	83	47	-	-	-	-	-	-	-	-
Wyoming.....	-	5	10	-	-	-	-	-	3	-	-	-
Colorado.....	-	8	310	329	-	-	-	-	3	-	-	1
New Mexico.....	-	4	236	157	-	-	-	-	11	-	1	11
Arizona.....	-	13	108	107	-	-	-	1	6	-	2	10
Utah.....	-	8	81	104	-	-	1	-	1	-	-	-
Nevada.....	-	7	-	3	-	-	-	-	-	-	-	-
PACIFIC.....	8	283	531	296	2	-	-	2	36	12	5	221
Washington.....	-	19	117	105	-	-	-	-	1	-	-	-
Oregon.....	-	16	14	21	-	-	-	-	1	2	-	16
California.....	7	236	356	144	2	-	-	2	34	10	5	205
Alaska.....	1	8	26	19	-	-	-	-	-	-	-	-
Hawaii.....	-	4	18	7	-	-	-	-	-	-	-	-
Puerto Rico.....	-	8	1	9	4	-	-	-	6	-	-	14

CASES OF REPORTED PARALYTIC POLIOMYELITIS OCCURRING WITHIN 30 DAYS OF THE ADMINISTRATION OF ORAL POLIOMYELITIS VACCINE IN NON-EPIDEMIC AREAS JANUARY 1 TO SEPTEMBER 15, 1962

Case #	Age	Race	Sex	Doses IPV	Onset First Symptom	Clinical Severity	Interval From OPV (days)			Virus Isolates		Antibody Response	Committee[1] Appraisal
							Type I	Type II	Type III	Type	Character		
1	3	W	M	2	5/29	1	23	–	–	I	Wild Like	I	Excluded
2	25	W	M	1	8/30	3	10	–	–	**	**	**	Compatible
3	2	W	F	2	2/23	3	Over 90	8	–	III	–	–	Excluded
4	23	W	M	4	7/16	3	76	–	17	III	Wild Like	III	Compatible
5	36	W	F	0	7/20	3	–	–	22	III	Vaccine Like	III	Compatible
6	18	W	F	5	7/1	3	34	–	7	III	**	**	Compatible
7	51	W	M	0	7/16	3	51	–	22	0	–	**	Compatible
8	37	W	M	0	7/23	3	43	–	15	–	–	–	Compatible
9	49	W	M	0	6/18	4	Over 90	–	26	0	–	II & III	Compatible
10	16	W	M	0	6/8	3	43	–	15	–	–	–	Compatible
11	36	W	M	0	7/15	4	–	–	21	0	–	I & III	Compatible
12	48	W	F	0	5/5	4	34	–	7	III	Vaccine Like	III	Compatible
13	39	W	M	0	5/21	4	50	–	23	III	Vaccine Like	–	Compatible
14	6	W	M	0	5/25	1	54	–	27	I III	Wild Like Vaccine Like	–	Excluded
15	52	W	M	0	6/26	4	52	–	19	III	Vaccine Like	III	Compatible
16	6	W	M	4	6/12	2	37	–	5	I	**	I	Excluded

Key for Severity: 1 – Complete Recovery, no residual paralysis 2 – Minor Involvement 3 – Significant Disability
4 – Severely Disabled (bed, wheelchair, extensive bracing)

Key for Virus and Antibody Studies: 0 – Negative Test
– – Test not Done
** – Test in Progress

Virus character was determined by the modified Wecker and McBride tests.

1 Considered compatible with vaccine-induced disease were those cases clinically indistinguishable from poliomyelitis with some significant residual paralysis and laboratory studies not inconsistent with the possibility of vaccine relationship.

stool. Since Type III vaccine had not been fed, it can be concluded that the infection was due to a wild virus.

Eleven of the thirteen cases following Type III oral polio vaccine were considered by the Committee as possibly vaccine related. Of the two cases excluded, one (case 14) had an illness atypical for poliomyelitis with no functional impairment after 30 days. Both Types I and III polioviruses were recovered from the stool, 55 and 27 days respectively after Types I and III vaccines had been fed to the child. The Type I virus which was recovered was characterized as "wild-like" according to the results obtained by the modified Wecker and McBride tests. These tests are used to demonstrate slight antigenic differences between poliovirus strains of the same type. Since the vaccine strains may, after a period of intestinal multiplication, show such a shift in the antigenic characteristics of the viruses, no definitive interpretation of this finding was possible. The second case (case 16) which was excluded from further consideration had an insignificant paralytic residual and no detectable Type III antibody in either acute or convalescent serum specimens.

From 6 of the 11 cases, Type III poliovirus was recovered from stool specimens. Four of the six were characterized as "vaccine-like" by the modified Wecker and McBride tests. Although this finding was of interest, it unfortunately provided little help in determining whether the vaccine played a casual role. Each of these considered had been fed oral vaccine and, hence might be expected to be excreting the Type III vaccine virus which might appear by the modified Wecker and McBride tests to be, as noted above, either "wild-like" or "vaccine-like." Further, it is possible that the oral vaccine strain may have displaced a "wild" enterovirus which was, in fact, the etiological agent responsible for the paralytic illness. In summary, isolation of a Type III virus from the stool and demonstration of Type III antibodies in the patient's sera served to indicate only that the paralytic disease would not be incompatible with Type III vaccine-induced disease.

The eleven cases considered as possibly related to Type III vaccine feeding are between 16 and 52 years of age, with all but three of the cases over 30. The vaccine administered to this group of cases was from several lots and was not produced by any single manufacturer. Of the 11 cases, 3 occurred in Oregon, 3 in Nebraska, 2 in Michigan, 2 in Ohio, and 1 in New York State. The clinical illnesses in these patients range from significant to severe. No deaths occurred.

Discussion Summary:

Of the reported cases to date, one following Type I vaccine and eleven following Type III vaccine were con-

(Continued on page 304)

sidered by the Committee to be clinically consistent with paralytic poliomyelitis and with laboratory findings which could not exclude a possible relationship to the administration of oral vaccine.

As noted, a single case occurred within 30 days of Type I vaccine administration during a period of almost 9 months when approximately 20,000,000 persons were fed Type I vaccine. This is wholly compatible with coincidental origin.

The 11 cases following Type III vaccine cannot all be assumed to be coincidental. The adult age distribution ranging from 16 to 52 years with 8 of the cases over 30 years of age, and the clustering of the intervals from vaccine feeding to onset in the 2-3 week period suggest a vaccine relationship. For these reasons the Committee concluded that "there is sufficient epidemiological evidence to indicate that at least some of these cases have been caused by Type III vaccine."

The incidence, assuming all cases to have been vaccine induced, is but 11 cases among more than 13 million fed. This is less than one case per million doses given. When the risk is related to age it is apparent that adults are exposed to a greater hazard than are children. Inadequate information on the age specific vaccine acceptance rate, however, makes it impossible to calculate a more precise estimate of the risk at this time.

With the incidence of poliomyelitis at a low level in this country, the Committee therefore recommended that the Type III vaccine be restricted to pre-school and school age children and to those adults in high risk groups, such as those travelling to hyperendemic areas or in areas where a Type III epidemic is present or impending.

Since the vast majority of poliomyelitis cases occur among young children and since children are the principal disseminators of the virus, continued intensive immunization programs among this group are clearly indicated. If this group can be adequately immunized, the spread of the poliomyelitis viruses will be sharply restricted, if not essentially eradicated.

Editor's Note:

Table 4 (B) Reported Pneumonia – Influenza Deaths in Reporting Cities, which was scheduled to appear on page 303, has been omitted because of the special oral polio-vaccine report. Copies of this table are available upon request.

U. S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
Communicable Disease Center
Atlanta 22, Georgia

Official Business

POSTAGE AND FEES PAID
U. S. DEPARTMENT OF H. E. W.

AIR MAIL